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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,775	07/28/2003	Stuart D. Hellring	1780A1	5341

7590 12/14/2006

PPG Industries, Inc.  
Law-Intellectual Property-39S  
One PPG Place  
Pittsburgh, PA 15272

EXAMINER
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ACKUN, JACOB K

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/627,775

Applicant(s)

HELLRING ET AL.

Examiner

Jacob K. Ackun Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-16, 21, 24 and 27-29 is/are pending in the application.
- 4a) Of the above claim(s) 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-16, 24 and 27-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

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1. Claim 21 remains withdrawn from consideration. An action on the merits as to the remaining claims follows.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 24, 27-29 and 2-16 are finally rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are indefinite because it is not clear whether the second slurry as recited in independent claim 24 contains abrasive, or does not contain abrasive. Subpart (c) itself in claim 24 appears to require some abrasive in the second slurry, if only so that the "higher concentration" terminology therein has meaning. For example, if the requirement for the second slurry were read so that it included slurry with no abrasive, then the limitation wherein the first slurry had a higher concentration of abrasive than the second slurry could not be given effect. In that case the second slurry could not be said to have a concentration of abrasive, much less a lower concentration than the first slurry. However, it appears that the applicants may in fact intend for claim 24 to encompass no abrasive in the second slurry. See, for example, dependent claim 4 and the prosecution history in the subject application. Clarification of the scope of claim 24 is required. Claim 6 appears to be missing a limitation.

4. Claims 24, 27-29 and 2-16 are finally rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Watts et al. As already noted in prior rejections and confirmed by applicants in responses to those rejections (see the arguments of the applicants), it is uncontested that Watts teaches the removal of metal from a microelectronic substrate in a two step process including the use of a first slurry having a higher

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concentration of abrasive than a second slurry. In the first step the first slurry removes most of the metal, and in the second step the second slurry removes the residual portion of the metal, including a very thin barrier layer. Watts specifically teaches that the second slurry may also contain no abrasive. Accordingly, it would appear that Watts teaches all of the elements of the claims.

On the other hand it is noted that independent claim 24 has been amended to recite “overburden”. While the metal layer (for example, layer 39 in Fig 1) taught in Watts is considered to meet this requirement, the obviousness rejection is also applied for completeness, since Watts does not specifically use the term “overburden”. Thus, it would have been obvious in view of Watts to employ the method disclosed therein to remove metal overburden, for the purpose of facilitating more accurate polishing. Moreover, it would have been obvious in view of Watts to modify the polishing therein by utilizing features or elements that are known per se in the relevant art, for the purpose of polishing a different substrate or obtaining slightly different but desirable results with the substrates disclosed.

5. Claims 24, 27-29 and 2-16 are finally rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cadien et al. Cadien also indicates that a two step process as claimed for removing metal overburden is conventional. Note Fig 3b. Since Cadien teaches dilution of the first slurry to prepare the second slurry, the Cadien second slurry is considered to have a lower concentration of abrasive than the Cadien first slurry. Should Cadien be deemed to be missing a particular feature of a dependent claim such as the claimed weight percent of abrasive, as recited in claim 8, it would have been obvious in view of Cadien to

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provide the missing element for the purpose of better adapting the method to polish a specific article.

6. Applicant's arguments filed 10/02/06 have been fully considered but they are not persuasive. The applicants argue generally that the claimed invention is not shown by the previously applied references and appear to rely on their prior arguments for specific reasons for traversing the rejections. See the Remarks filed on 10/02/06, in particular at paragraph 4 thereof. In response it is noted that the crux of the arguments previously presented was that in the subject application, the the metal was removed without removal of the barrier layer. According to applicants this feature distinguished over Watts since the reference specifically taught that in the second step with the reduced abrasive slurry, the barrier layer was also removed. See applicants previous arguments. On the other hand, the claims as now amended do not contain this limitation and applicants do not repeat these arguments. Accordingly, it would appear that the claims read on the references at least since no limitation in the claims appears to have previously been in contention. Note, however, the rejection above, should applicant specifically argue that neither Watts nor cadien is directed to "overburden".

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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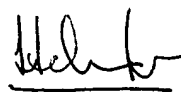
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob K. Ackun Jr. whose telephone number is (571)272-4418.

The examiner can normally be reached on Monday through Friday 8.30AM-5.00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on (571)272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jacob K. Ackun Jr.  
Primary Examiner  
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